4/9/97

DP BARCODE: D235033

CASE: 288613 DATA PACKAGE RECORD DATE: 04/09/97
SUBMISSION: S521150 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: EMERGENCY EXEMP ACTION: 510 SEC18-OC F/F USE
RANKING : 0 POINTS ()
CHEMICALS: 128857 Myclobutanil (ANSI)

ID#: 97WA0023
COMPANY:
PRODUCT MANAGER: 41 ROB FORREST 703-308-8417 ROOM: CS1 6G
PM TEAM REVIEWER: DAVID DEEGAN 703-308-8327 ROOM: CS1 6-W28
RECEIVED DATE: 04/02/97 DUE OUT DATE: 05/22/97

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 235033 EXPEDITE: N DATE SENT: 04/09/97 DATE RET.: / /
CHEMICAL: 128857 Myclobutanil (ANSI)
DP TYPE: 001 Submission Related Data Package
CSF: N LABEL: Y

ASSIGNED TO	DATE IN	DATE OUT
DIV : EFED	4/10/97	APR 17 1997
BRAN: EEB	4/11/97	/ /
SECT: RSZ	4/11/97	/ /
REVR CLAIRD	4/11/97	/ /
CONTR:	/ /	/ /

ADMIN DUE DATE: 04/29/97
NEGOT DATE: / /
PROJ DATE: / /

* * * DATA REVIEW INSTRUCTIONS * * *

Please review this section 18 request from Washington to use myclobutanil on mint. Please indicate if exposure to non-target organisms is a concern, including for Federally-listed species. This is the 1st time that EEB has been asked to review a request from WA for this crop & chemical under section 18; however, recently a request was sent to EEB to review the same use in Idaho under 97-ID-14 (DP 234778). If I can answer any questions for you, please don't hesitate to contact me at 308-8327.

Dave Deegan

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
235028	BAB	04/09/97	04/29/97	Y	N	Y
235030	EAB	04/09/97	04/29/97	Y	N	Y

ECOLOGICAL EFFECTS BRANCH REVIEW

Chemical: Myclobutanil (Rally 40W)

100 Submission Purpose and Label Information

100.1 Submission Purpose and Pesticide Use

The Washington Department of Agriculture has applied for an emergency exemption for Rally 40W (myclobutanil) fungicide to control powdery mildew (Erysiphe cichoracearum) and rust (Puccinia menthae) on mint.

100.2 Formulation Information

Myclobutanil:a-butyl-a-(4-chlorophenyl)-1H-1,2,4-triazole-1-propane-nitrile. 40%
Inert Ingredients 60%

100.3 Application Methods, Directions, Rates (from label)

Applications should begin in April 15 and end by August 15, 1997 on a 14-21 day intervals. Application rate is 0.3125 pound (0.125 lbs a.i.) of Rally 40W per acre. Users are limited to 3 applications per season. Applications may be made by aerial or ground. All applicable directions, restrictions and precautions on the EPA registered label are to be followed.

100.4 Target Organisms

Powdery mildew, (Erysiphe cichoracearum) and rust, (Puccinia menthae)

100.5 Precautionary Labeling

Product Label

For terrestrial uses, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Do not apply when weather conditions favor drift or runoff from areas treated.

101 Hazard Assessment

101.1 Discussion

The proposed exemption would allow use of myclobutanil on 14,000 acres of mint in the following counties: Adam, Benton, Clark, Franklin, Grant, Kittitas, Lincoln, and Yakima.

101.2 Likelihood of Adverse Effects on Nontarget Organisms

Environmental Fate Data:

- Stable to hydrolysis at pH 5, 7, and 9

- Stable to photolysis in water
- Photolytic soil half-life = 143 days
- Aerobic soil half-life = 66 days
- Anaerobic soil half-life = no degradation at 62 days
- solubility = 142 ppm
- Leaching: myclobutanil is moderately mobile (K_ds = 1.46 - 9.77 for adsorption and 0.47 - 4.18 for desorption in 5 soils). K_{oc} = 112. The degradate is considered highly mobile.
- Bioaccumulation: Fish bioaccumulation study was waived. Myclobutanil is not expected to bioaccumulate.

The major route of dissipation is believed to be diffusion and dilution; myclobutanil appears to be resistant to most environmental breakdown processes.

Toxicity Data
Terrestrial Species

BIRDS: Ecological effects avian toxicity data for myclobutanil are as follows:

Species	Study Type	% a.i.	Results	Status
Bobwhite	Acute oral LD_{50}	84.5	510 mg/kg	Core
Bobwhite	Dietary LC_{50}	84.5	>5000 ppm	Core
Mallard	Dietary LC_{50}	84.5	>5000 ppm	Core
Bobwhite	Reproduction	94.2	NOEC=260ppm	Supplemental
Mallard	Reproduction	94.2	NOEC=260ppm	Supplemental

Myclobutanil is slightly toxic to birds on an acute basis, and practically non-toxic to birds on a sub-acute (dietary) basis.

MAMMALS: Mammalian toxicity data for myclobutanil is as follows:

Species	Test type	% a.i.	Results	Status
rat	acute oral	91.9	LD_{50}=1360 g/kg	core
rat	2-gen. repro.	84.5	Repro NOEL = 200 ppm, LOEL = 1000 ppm	core

rat	2-gen repro.	84.5	systemic NOEL = 50 ppm, LOEL = 200 ppm	core

Myclobutanil is slightly toxic to mammals on an acute basis.

Aquatic Species

Aquatic toxicity data for myclobutanil is as follows:

Species	Test type	% a.i.	Results	Status
Bluegill sunfish	96-hr acute	84.5	LC_{50}=2.4 ppm	core
Rainbow trout	96-hr acute	84.5	LC_{50}=4.2 ppm	core
Daphnid	48-hr acute	84.5	EC_{50}= 11 ppm	core
Sheepshead minnow	96-hr acute	93	LC_{50} = 4.7 ppm	core
Eastern oyster	96-hr acute	93	EC_{50}= 0.68 ppm	supplemental
Mysid	96-hr acute	93	LC_{50}=0.24 ppm	core
Fathead minnow	Early life stage		NOEC = 0.98 ppm, LOEC = 2.2 ppm	supplemental

Myclobutanil is moderately toxic to freshwater fish and invertebrates, moderately toxic to marine fish, and highly toxic to marine invertebrates on an acute basis.

Exposure Data and Risk Quotients (RQs)

Acute terrestrial exposure estimates were made using the Kenaga nomograph. Values were derived based on the maximum label rate per acre per application (0.125 lb a.i./A). Values were also calculated for 3 applications at 0.125 lb ai/A on a 14-21 day application interval using the FATE program. Values presented below are the maximum estimated residues for various vegetation types. RQ values were derived by dividing the estimated exposure by the LC_{50} value. RQs greater than 0.5 exceed the Agency's Level-of-Concern (LOC) for high risk; values greater than 0.2 indicate a risk which may be reduced if mitigation measures are instituted; values greater than 0.1

exceed the LOC for endangered species.

Chronic risk was assessed using the residues generated by the FATE program and comparing them to the available avian reproduction data. An RQ greater than 1 exceeds the Agency's LOC for high risk. The printout for the FATE program is attached at the end of this review.

Vegetation Type	Max. Kenaga value (0.125 lb ai/A)	Acute RQ	Max. FATE EEC (3 appl., total of 0.375 lb ai/A)	Chronic RQ
Short Grass	30 ppm	0.006	90.00 ppm	0.35
Long Grass	13.75 ppm	0.003		
Leaves/leafy crops	16.86 ppm	0.003		
Forage/Insects	7.25 ppm	0.004		

There were no LOC exceedances for avian species from the proposed use of myclobutanil. This use is not expected to cause concern for avian species.

Terrestrial Species-Mammals

Acute: Based on acute LD_{50} values, mammals are less sensitive than birds to myclobutanil. Since acute risk to birds is not expected from the proposed use of myclobutanil, acute risk to mammals is not expected.

Chronic: Maximum residues calculated via the FATE program are lower than reproductive NOECs for mammalian species. Therefore, reproductive risk is not expected for the proposed use of myclobutanil.

Aquatic Organisms

Exposure estimates (EECs) and RQs

The aquatic EECs presented below were generated using the GENEEC computer program developed by EFGWB. This program uses a variety of environmental fate parameters in conjunction with the application rate to estimate the exposure to aquatic organisms from runoff. The maximum total application rate (0.375 lb a.i./A) was used in this program, since little degradation would occur during the 14-day application interval for multiple applications. The printout from this program is attached at the end of this review.

Acute RQs were derived by dividing the instantaneous EEC by the LC or EC_{50} value for each species. The Agency's LOC for high-risk is exceeded if the RQ value is greater than 0.5. Values of 0.2 and higher indicate risk that may be reduced if mitigation measures are instituted, and values greater than 0.05 exceed the LOC for endangered species.

Chronic RQs were derived by dividing the appropriate EEC by the NOEC obtained in chronic tests. The 21-day EEC is used for aquatic invertebrates, and the 56-day EEC is used for fish (using the early life-stage NOEC). Note that there is no acceptable chronic data available for invertebrates, so the chronic invertebrate RQ could not be generated for this risk assessment.

	EEC (ppb)	RQ
Instantaneous	12.09	Bluegill: 0.005 Trout: 0.003 Daphnid 0.001
56-day	9.84	Fathead Minnow: 0.004

There were no LOCs exceeded for the proposed use of myclobutanil.

Plants

Tier II Testing

Terrestrial

Tier II terrestrial plant testing is unavailable for myclobutanil.

Aquatic

Tier II aquatic plant data is available for *Selenastrum capricornutum* only. The *Selenastrum* EC_{50} value is 0.83 ppm. No adverse effects to aquatic plants are expected, based on this value.

Discussion of RQs/LOC exceedance

A. Effects on terrestrial organisms:

Acute

Based on the acute toxicity data, myclobutanil does not appear to pose an acute risk to avian or mammalian species from the proposed use.

Chronic

The proposed use of myclobutanil does not appear to pose a reproductive concern to birds or mammals.

B. Effects on aquatic organisms:

Acute

Fish: Based on the acute toxicity data, myclobutanil should not pose an acute concern to freshwater fish from the proposed use.

Invertebrates: The proposed use of myclobutanil does not pose an acute concern to freshwater aquatic invertebrates.

Chronic
Fish: The proposed use of myclobutanil does not appear to pose a chronic risk to fish.

Invertebrates: Chronic risk to aquatic invertebrates could not be assessed at the present time due to a lack of data.

C. Effects on plants:
Terrestrial: A risk assessment for terrestrial plants could not be completed at this time due to a lack of data.

Aquatic: Based on the single aquatic plant species for which data was available, the proposed use of myclobutanil does not appear to pose a risk to aquatic plants.

101.3 Endangered Species Considerations
Risk to endangered species is not expected from the proposed use.

101.4 Adequacy of Toxicity Data
The available data were adequate to complete a risk assessment for this particular use.

101.5 Adequacy of Labeling
Environmental hazards labeling is adequate for use under this exemption.

102 Conclusions
EEB has reviewed the proposed emergency exemption for the use of myclobutanil on mint in Washington. The use of myclobutanil as proposed is not expected to present risk to any nontarget organisms, including endangered species.

Curtis E. Laird 4-15-97
Curtis E. Laird, Biologist
Ecological Effects Branch
EFED (7507C)

Allen W. Vaughan 04-16-97
Allen Vaughan, Entomologist
Ecological Effects Branch
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4/17/97
Daniel D. Rieder, Acting Chief
Ecological Effects Branch
EFED (7507C)

RUN No. 1 FOR Rolly 40W INPUT VALUES

RATE (#/AC) ONE (MULT)	APPLICATIONS NO.-INTERVAL	SOIL KOC	SOLUBILITY (PPM)	% SPRAY DRIFT	INCORP DEPTH (IN)
.125 (.339)	3 10	112.0	142.0	5.0	.0

FIELD AND STANDARD POND HALFLIFE VALUES (DAYS)

METABOLIC (FIELD)	DAYS UNTIL RAIN/RUNOFF	HYDROLYSIS (POND)	PHOTOLYSIS (POND-EFF)	METABOLIC (POND)	COMBINED (POND)
66.00	0	N/A	66.00- 8098.20	62.00	61.53

GENERIC EECs (IN PPB)

PEAK GEEC	AVERAGE 4 DAY GEEC	AVERAGE 21 DAY GEEC	AVERAGE 56 DAY GEEC
13.74	13.48	12.09	9.84